CHEM-BIO DEFENSE Quarterly

Vol. 2 No. 2

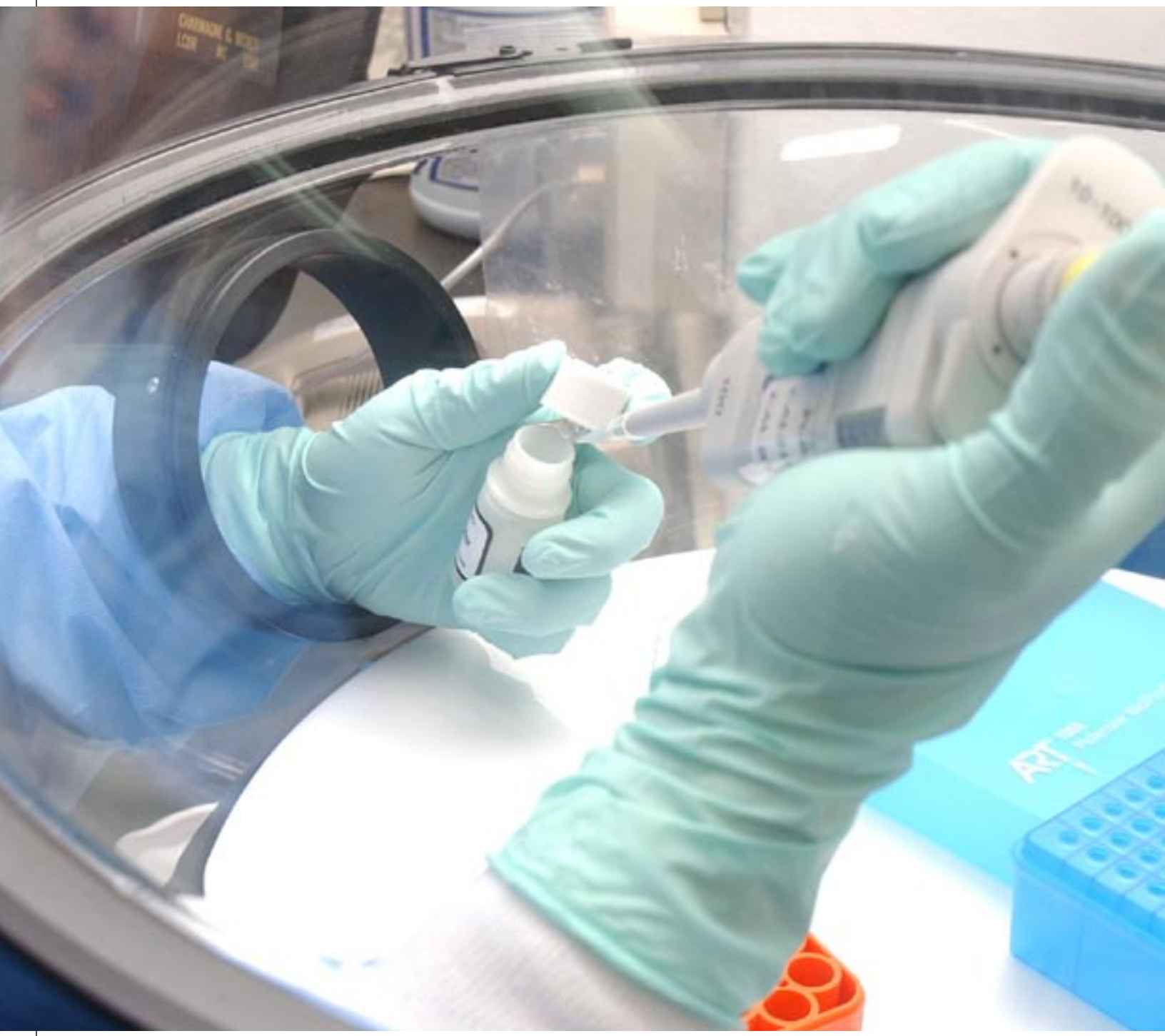
Joint Vaccine Acquisition Program Gets Vaccinia Immune Globulin, Intravenous Approved

Non-Standard Equipment Review Panel - A New Standard for Acquiring Non-Combatant Equipment

Baseball Hall-of-Famers Who Served in the Chemical Corps During WWI

Cover photos by:
Staff Sgt. Klaus Baesu, US Army
A Soldier uses binoculars to look for enemy activity while providing security at a checkpoint in Ba'qubah, Iraq, the unit helped restore stability to the city following an outbreak of violence. The Soldier is assigned to the 1st Infantry Division's 3rd Brigade Combat Team.

Back cover photos by:
Steve Lusher,
Camber Corporation.
Farewell Ceremony for
Mr. Richard Decker.



U.S. Naval Hospital Yokosuka provides force health protection services to the forward-deployed U.S. Seventh Fleet and beneficiaries who support the Fleet throughout the Western Pacific. U.S. Navy photo by Tom Watanabe.

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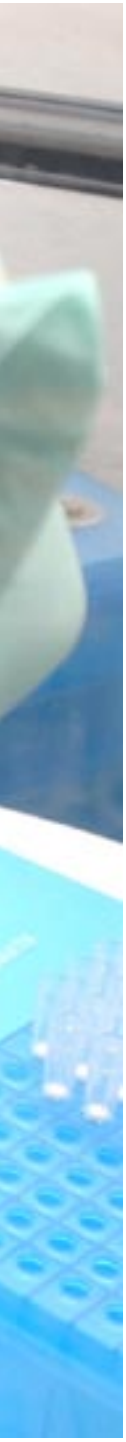


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Joint Program Executive Officer
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Mr. Stan Enatsky
USN

Col. Daniel Berry
USAF

From the Joint Program Executive Officer

Brigadier General Stephen V. Reeves
Joint Program Executive Officer
for Chemical and Biological Defense

In a hostile environment, when you squeeze the trigger, push the button, or pull the lanyard, you expect to see a round go down range. You expect that round to work despite heat and cold, dust and wind, and shock and vibration. Your life and the lives of those around you depend on that round working as promised.

Likewise, in a chemical, biological, radiological or nuclear (CBRN) environment, you expect your protective equipment, detectors, and if necessary, decontaminants and pre- or post-exposure medicines to work.

Over the past several years, Department of Defense (DoD) project managers, DoD laboratories, national laboratories, our international allies, and our industry partners have been working overtime to meet the increased CBRN threats. Many of these programs are reaching, or have already reached the field. And we know they work because we've thoroughly tested them under a variety of conditions against real threats.

DoD's Chemical and Biological Defense Program (CBDP) mission is ensuring your expectations are met and that all our warfighter's have the best CBRN defense technology and equipment available.

Yet we also recognize that equipment is sometimes urgently needed and "something" is better than nothing when time and mission accomplishment is paramount. Whether the need is immediate or technology development is required, we set minimum standards for safety and effectiveness. Lives depend on meeting those standards.

In this issue we discuss the Non-Standard Equipment Review Panel that reviews both developmental and commercial equipment that must be urgently fielded to meet immediate operational needs. Established by the Office of the Secretary of Defense, this panel implements DoD Policy that CBRN defense equipment purchased directly by units and the services be reviewed to ensure it meets minimum standards for safety and effectiveness. The Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) website also has a link on its home page providing a useful tool to help industry and military service personnel find the answers they need when considering the purchase of these items.

This issue also features an article providing a brief history of medical surveillance, its importance as part of a network-centric approach to biological agent detection, and how this technology impacts both the civilian and military communities.

Finally, the Department of Defense Chemical and Biological Defense Advance Planning Briefing for Industry (APBI) will be held on April 25 - 26, 2005, at the Washington Convention Center, Washington, D.C. The JPEO-CBD will host this annual event that includes guest speakers from DoD on the CBDP's direction, with a primary focus on future business opportunities and future requirements of the Department of Defense.

You can visit our website at www.jpeocbd.osd.mil for more details about registration for APBI as well as other information pertaining to our programs.

Brigadier General Stephen V. Reeves
Joint Program Executive Officer
for Chemical and Biological Defense

Joint Program Executive Office

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By Jared Sass, Foreign Military Sales & Program Security Analyst, Camber Corporation

In today's climate of global conflict where the threat of weapons of mass destruction is a daily reality, warfighters demand and deserve the most technically advanced chemical, biological, radiological, and nuclear (CBRN) defensive equipment available. The Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) strives to equip the warfighter with this technology. To get it in their hands as quickly as possible, the JPEO-CBD works within tight acquisition timelines and parameters. One slip in a schedule within the acquisition timeline can delay fielding.

One such potential delay can easily be avoided. Having a thorough Security Classification Guide (SCG) as early in the program as possible eliminates the possibility for the Milestone Decision Authority having to hold up the acquisition timeline until proper security measures are defined for the program. The JPEO-CBD policy is to review each of its programs' SCGs every two years, or at a milestone decision, whichever comes first.

Program security is a vital aspect of the acquisition process. Each program has specific pieces of information that must be safeguarded in order to protect national security and to provide the highest quality, most effective, and the most technologically advanced product to the warfighter. SCGs provide a roadmap for accomplishing that task and are valuable pieces of program documentation. They give a short, yet thorough, overview of the important aspects of the program that need protection.

An SCG is the written record of an original classification decision or series of decisions regarding a system, plan, program or project. These decisions give specific guidance on what aspects of a program are classified.

Each project manager (PM) is responsible for drafting the SCG for their program. It is the PM's detailed knowledge of the program that enables them to determine exactly what components of the program, if released to the public, would harm national security or cause their product's performance to be reduced, or render it completely ineffective. To avoid any reduction of effectiveness, SCGs should be issued as early as is practical in the life cycle of the system, plan, program or project.

SCG's are required under Department of Defense (DoD) regulation 5200.1-R "Information Security Program," and while there is no mandatory DoD-wide format for SCG's, the JPEO-CBD has created a format adapted from Appendix 4 of DoD 5200.1-H, "Handbook for Writing Security Classification Guidance" that helps streamline the process. Use of this format can reduce the time it takes to complete a SCG and help ensure that all information required is included.

The heart of a classification guide is the identification and enunciation of the specific items or elements of information warranting security protection. Since the U.S. Army is the executive agent for chemical and biological defense, it holds original classification authority over all JPEO-CBD programs. Army Regulation 380-86 provides the classification justification for classified items relating to chemical and biological defense. Army Regulation 380-86 just underwent a thorough revision and it updates classification guidance for the rapidly changing world of chemical and biological defense. The revised regulation gives clearer guidance on the classification of future threats with which the warfighter will be challenged.

The JPEO-CBD utilizes SCGs as a mechanism to provide consistent security guidance to each individual that has contact with its programs. SCGs eliminate confusion, subjectivity, and user interpretation. Providing security guidance in an objective and consistent manner is vital to every program when dealing with questions related to a programs specific security needs.

Keeping the warfighter properly equipped for any CBRN incident is the first goal of the JPEO-CBD. In a time when eventualities can become realties at any moment, the warfighter must be equipped with the best technology available. Keeping a current and through SCG not only removes one variable that can sidetrack an acquisition program, but it also ensures that key program information is not compromised.

Vaccinia Globulin,

On February 18, 2005 the Food and Drug Administration approved Vaccinia Immune Globulin, Intravenous (human) (VIGIV) as a licensed product. VIGIV is a human plasma-derived product that aids in the treatment of some smallpox vaccine complications. The development of this product was funded by the Department of Defense Joint Vaccine Acquisition Program (JVAP), which falls under the Joint Program Executive Office for Chemical and Biological Defense.

JVAP was chartered in 1996 with the goal to fulfill biodefense requirements through vaccine development and procurement.

Within just nine years of being established, JVAP and its prime systems contractor, DynPort Vaccine Company (DVC) LLC, a Computer Sciences Corporation (CSC) Company, successfully developed VIGIV through licensure.

VIGIV is part of the requirement for a smallpox vaccine system. For programmatic purposes, it is estimated that about one in every 10,000 smallpox vaccine recipients may have a serious adverse reaction to the vaccine which require VIGIV, although in reality the occurrence is far less frequent. The most common side effects of the vaccine are mild and do not require treatment, such as a sore arm, fever and body rashes. These effects will usually resolve by themselves. However, the rare serious vaccine complications which do require VIGIV are:

- Inadvertent inoculation (where a vaccinated person accidentally passes the vaccine virus to someone else, and the recipient has a severe reaction resulting in skin lesions, toxicity to the affected person, or substantial pain)
- Eczema vaccinatum (severe skin rash resulting from vaccination in a person with atopic dermatitis)
- Generalized vaccinia (where someone develops a severe and widespread rash)
- Progressive vaccinia (a vaccination site that does not heal, usually because the person has an impaired immune system)

Immune Intravenous

By Angela M. Hurst, Vaccine Manager
Joint Vaccine Acquisition Program, Camber Corp.

A laboratory technician diluting serum from vaccinated mice in a biological safety cabinet in a BSL-3 laboratory.

VIGIV is manufactured from source plasma that is collected from individuals that have recently been vaccinated for smallpox. After a person receives a smallpox vaccination, the person will develop an immune response to the virus-containing vaccine by way of producing immunoglobulins. These immunoglobulins are purified from the source plasma and manufactured into a final product, which can be administered to another person through intravenous injection to treat severe reactions to the smallpox vaccine.

The smallpox vaccine was developed and licensed in 1944, and was used to successfully eradicate the smallpox disease. The last case of smallpox in the United States was reported in 1949 and the last case in the world was reported in 1977. The World Health Organization declared in 1980 that smallpox had been eradicated from the world population.

The smallpox vaccine that was used to eradicate smallpox is called Dryvax, which was produced by Wyeth. This vaccine contains a live vaccinia virus, which is a "pox"-type virus related to the virus that causes smallpox, known as variola virus. The smallpox disease-causing variola virus emerged in the human population thousands of years ago. There are several types of the smallpox disease. The most common type, which accounted for at least 90 percent of all smallpox cases, is called variola major and caused death in about 30 percent of its victims. Smallpox causes high fever and a severe rash, which starts in the mouth, and then spreads to the rest of the body. When the rash heals, the skin lesions leave pitted scarring on the person's body, usually concentrated on the face, hands and feet.

After the smallpox eradication from the US, routine civilian vaccinations were discontinued in 1971, and military vaccines were discontinued in the 1980's. Because smallpox can easily be weaponized, this disease now presents a significant bioterrorism threat, especially after the events on September 11, 2001. Routine military vaccinations were restarted in December 2002, and then expanded in 2004.

Having a newly licensed product developed by DVC for JVAP signifies a great accomplishment from a biodefense perspective. VIGIV is one of the first biodefense-related products licensed since the terrorist attacks in 2001. National Institutes of Health (NIH), Centers for Disease Control (CDC), Department of Defense (DoD), Department of Homeland Security (DHS) and other government agencies have funded many initiatives to protect our country and our warfighters from bioterrorism and biowarfare. Such initiatives include the Project BioShield Act of 2004, as well as the development of many next-generation vaccines such as new anthrax, smallpox, recombinant Botulinum, and recombinant plague vaccines. The DoD is also funding the development of biochemical warfare defense products to include drugs, devices and critical reagents. These products include anticonvulsants and new autoinjectors.

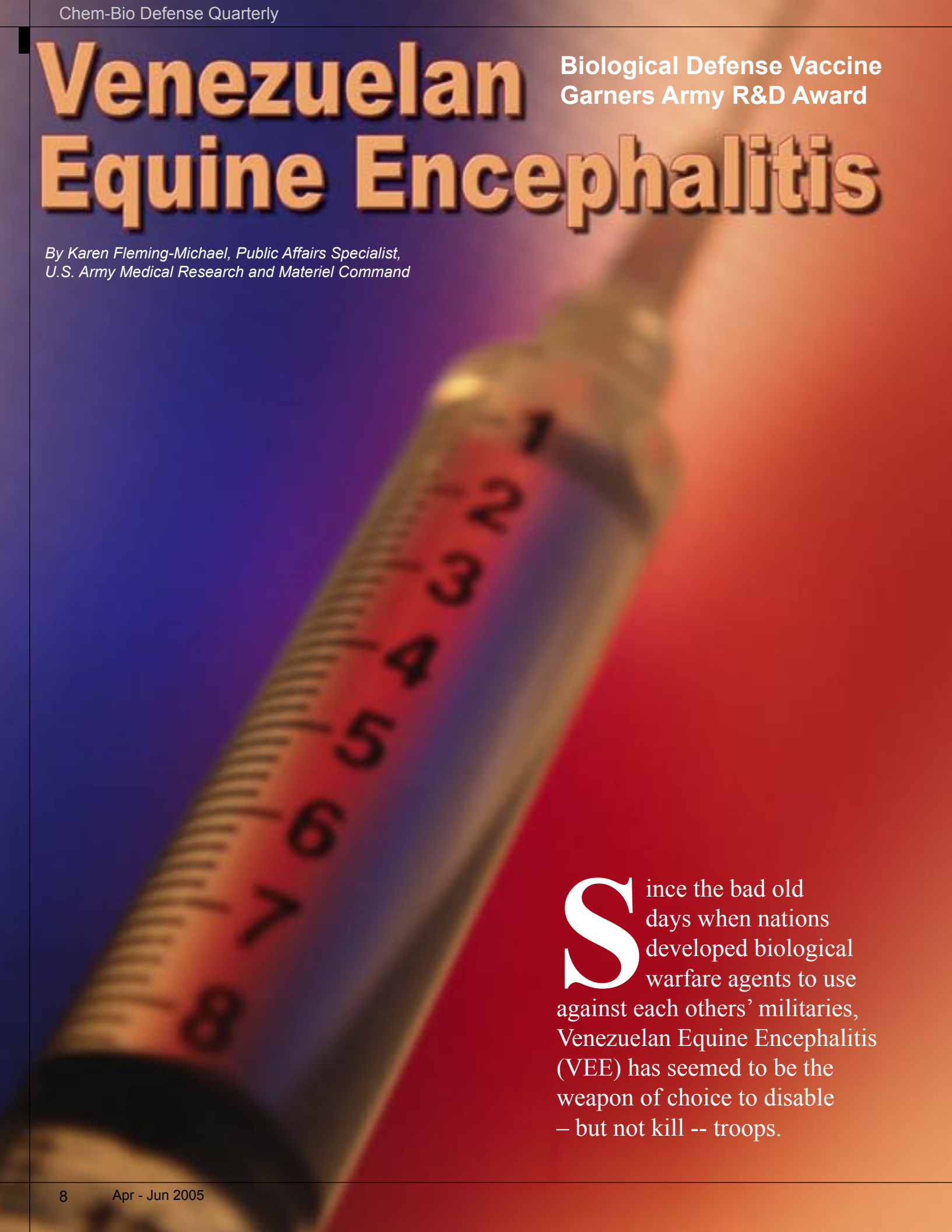
The JVAP program has piqued the interest of foreign countries with its development of new vaccines and vaccine products. JVAP is actively working under a Canada/United Kingdom/United States Chemical Biological Radiological Memorandum of Understanding (MOU) in a joint effort to provide and receive required vaccines and products. Specifically, JVAP has a Project Agreement with Canada under the MOU to provide VIGIV to satisfy part of Canada's smallpox vaccine system requirement. International agreements such as this one will help to speed products to licensure so that the warfighter may benefit from them sooner, and will perhaps save costs.

The licensure of VIGIV is just one small step in the right direction in protecting our country and our allies against the threat of bioterrorism. The continued development of VIGIV and other biological and chemical defense products will help ensure the safety of our country.

Venezuelan Equine Encephalitis

Biological Defense Vaccine Garners Army R&D Award

By Karen Fleming-Michael, Public Affairs Specialist,
U.S. Army Medical Research and Materiel Command



Since the bad old days when nations developed biological warfare agents to use against each others' militaries, Venezuelan Equine Encephalitis (VEE) has seemed to be the weapon of choice to disable – but not kill -- troops.

Though offensive biological weapons research ended in the United States in 1969, researchers in biological defense did not end their quest for a vaccine to combat it because of its virulence.

Today, a new Venezuelan Equine Encephalitis (VEE) vaccine is on the road to licensure because of fruitful research performed at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID).

The team that developed the vaccine was awarded a 2003 Army Research and Development Achievement Award that was presented December 2 in Orlando, FL.

"We're thrilled," said Dr. Doug Reed, the rookie on the team who's worked with VEE at USAMRIID since 2000. "We've had extensive collaboration and a lot of teamwork, so to see it rewarded is very exciting."

With a mild case of VEE, a victim will have a fever, muscle aches, and a headache that's so painful it's almost unbearable to move the head, said Dr. Mary Kate Hart, a member of USAMRIID's VEE vaccine team. Because the virus has a one-to-one infection case ratio, everyone who is exposed will get sick if they aren't vaccinated.

"For Soldiers on the battlefield exposed to an aerosol (of VEE virus), the effect would be devastating," she said. "Everyone who gets it is going to be feeling its effects at the same time, within 24 to 48 hours of exposure. And while the disease is not fatal to people in the military age group, it does place a huge demand on the medical system."

The current, unlicensed vaccine that most people who work with the VEE virus receive has its shortcomings. Called TC-83, the vaccine can mutate because it is a mixture of viruses, said Dr. Michael Parker of the VEE vaccine team.

"It was made by an old classical technology that was successful in making vaccines for polio and yellow fever," he said. "In some instances it caused disease for some of the vaccine recipients, and some people just didn't develop an immune response so they needed an additional shot of the C-84," which supplements the TC-83 vaccine to produce an immune response.

The new vaccine, called V-3526, is a live, attenuated vaccine like its predecessor, but it was derived by genetic engineering. In creating the vaccine, USAMRIID earned about half a dozen patents, including one for the vaccine as well as for techniques and technologies involved in making it.

"We've been able to go in and specifically design mutations that knock out the ability of the virus to cause disease," Parker said. "With the old technology … these vaccine strains were derived randomly, by chance, in cell culture. What the new technology allows us to do is to go in and specifically decide what we're going to do, so it's kind of like taking a designer virus approach."

The team deleted four amino acids in the virus so two proteins can't combine and become virulent, said USAMRIID's Dr. William Pratt.

"It appears to be unlikely to cause disease but does provide immunity," he said. "It can't revert to becoming a disease-causing virus, like the older one, and because it's a defined mutation, it can be easily tracked because there's only one version of the virus -- unlike the other vaccine that had multiple versions."

Initially the Army charged the group with coming up with vaccines for three types of VEE: 1E, 3A and 1AB. In the end, the V-3526 met the requirements for all three.

"Instead of having a trivalent vaccine, we have a monovalent vaccine that provides protection," Hart said.

The team transitioned the VEE vaccine to the Joint Vaccine Acquisition Program in 1999 and continues to monitor it. They meet with Kathy Berst, the vaccine manager for VEE at JVAP, and stay apprised of its progress now that it is in the hands of DynPort Vaccine Company (DVC), the prime systems contractor that is responsible for developing the vaccine and licensing it.

"USAMRIID developed the V-3526 construct, so having them work on the team with the DVC vaccine development experts is really helpful," Berst said. "We rely on them as consultants."

This relationship with JVAP and DynPort could offer long-term benefits for future vaccine work for Eastern and Western Equine Encephalitis.

"They know what we're striving for, so when they develop EEE and WEE vaccines, they're using the information that they have learned from the VEE transition," Berst said.

The entire process, according to Pratt, has been a model of a successful program all the way from the basic research up to the clinical use.

"When a product transitions, it enters what the acquisition folks call the Valley of Death, because the tech base and the developers don't normally talk to each other before the handoff," he said. "We worked very hard to close this valley and try and make it seamless."

If all goes well with the Food and Drug Administration (FDA) licensing and funding, VEE vaccine will be available for troops by 2013.

"For Soldiers on the battlefield exposed to an aerosol (of VEE virus), the effect would be devastating."

MEDICAL SURVEILLANCE

By COL John Skvorak, Deputy JPEO for Medical Systems -- Mr. Herb Wolfe, Public Health Specialist, JPMG

One of the most significant and dangerous terrorist threats the United States faces is the release of a deadly biological pathogen on our population. The anthrax letter incidents of 2001 provide familiar examples. The seven letters laden with anthrax spores mailed from New Jersey infected 22 people and killed five. In addition, more than a dozen people were treated for deadly inhalation anthrax. The clean-up costs exceeded $23 million against a ceiling of $25 million in 2002, according to an Environmental Protection Agency press release quoting Senator Chuck Grassley, ranking member of the Committee on Finance, and continue more than three years later. The public health effects of a more widespread attack or an attack with a contagious organism can only be estimated. Former Secretary of Defense William Cohen warned, "the threat of biological weapons from a madman with a batch of plague-inducing bacteria that could kill tens of thousands of people in a single act of malevolence is no longer a far-fetched scenario, but a real threat that is here and now."

A laboratory technician in a BSL-3 laboratory, pipetting reagents for the analysis of DNA generated as a part of the Army's vaccine research efforts.

Early detection and diagnosis of a biological attack is key to minimizing the casualties and controlling the consequences. Medical surveillance systems are being employed to rapidly detect changes in the health of a population and quickly identify and distinguish between naturally occurring disease and a biological attack. Medical surveillance is defined as the regular and repeated collection, analysis, and dissemination of uniform health information for monitoring the health of a population and intervening in a timely manner when necessary.

Medical surveillance is not a new concept. It reportedly began in 14th century Europe to help control disease within communities. Disease reporting began in the United States in the 1740s when laws were passed requiring the reporting of smallpox, yellow fever and cholera. Following the polio epidemic in 1916 and the influenza pandemic in 1918-1919, all states began participating in a national reporting system.

Passive medical surveillance systems, which rely on voluntary reporting from health care providers, continue to be very valuable public health tools. However, these systems are generally slower since information is usually not forwarded until the disease is confirmed by laboratory analysis. In a bioterrorism event, any delay in starting preventive measures can be very costly. Technology has facilitated active medical surveillance systems that can electronically import available health care data, establish normal baselines, and detect unexpected changes.

Syndromic surveillance is a type of medical surveillance that uses health-related data that precedes a specific diagnosis and is most applicable for detecting outbreaks associated with biological attacks. Syndromic surveillance is based on the concept that a sudden spike in everyday medical complaints may signal the early stages of a naturally occurring disease

outbreak or a biological attack. Analysis of data from various sources such as medical visits, laboratory tests, prescription and over-the-counter drug transactions, and school absence rates can be used to detect clusters of symptoms or syndromes. These systems are designed to detect unexpected changes from historical data to trigger an investigation into the cause. This gives health care providers the opportunity to intervene as early as possible and minimize casualties and contain the infection.

Several government agencies and academic institutions are developing or implementing active medical surveillance systems. ESSENCE (Electronic Surveillance System for the Early Notification of Community-Based Epidemics) is a software surveillance system that the Department of Defense Global Emerging Infections System (DoD-GEIS) established more than three years ago for the National Capital Region (NCR). ESSENCE uses downloaded diagnostic data from 104 primary care and emergency rooms within a 50-

con't on pg 12

Project Guardian

By CAPT Kathleen Downs, Senior Medical Advisor, JPMG

The Office of the Assistant Secretary of Defense for Health Affairs, Deployment Health Support Directorate and the Joint Program Executive Office for Chemical and Biological Defense, Joint Project Manager Guardian (JPMG) are working in partnership to develop and field medical and environmental surveillance components that will help protect military installations from terrorist threats using weapons of mass destruction.

The JPMG Installation Protection Program (IPP) is the Department of Defense's first effort to field a full spectrum of chemical, biological, radiological and nuclear (CBRN) protection capabilities to military installations and Defense Department owned or leased facilities. To expedite fielding, Guardian will use government and commercial-off-the-shelf systems designed to meet operational requirements.

Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) IV is a medical surveillance program designed and developed by a team from the Department of Defense, the state of Maryland and the Johns Hopkins University Applied Physics Lab that will provide population-based monitoring and an early warning capability of a potential chemical or biological attack on or near a military installation. Data from ESSENCE IV will be reviewed and analyzed on a daily basis by epidemiologists and public health professionals to determine if there are unusual patterns of disease that may indicate exposure to chemical or biological threat agents. The IPP is working with each installation to specifically incorporate utilization of medical surveillance data into their contingency operations.

Environmentally, the program will conduct air sampling and laboratory analysis to determine presence of chemical and biological agents. Health Affairs is assisting the IPP in building the appropriate analytic architecture and reporting policies governing detection and identification of chemical or biological agents. The two agencies are also working to develop appropriate medical countermeasures in the event installation personnel are exposed to threat agents, as well as operational concepts concerning sharing information and cooperation with local communities, state governments and other federal agencies. The IPP is working with each installation to incorporate utilization of their Public Health Emergency Officer in their daily force protection operations.

The IPP fills a critical gap in installation capability to react to a CBRN incident. The program will provide installations with an integrated protection and response capability to reduce casualties, maintain critical missions and restore essential operations.

The IPP has an assigned mission to:

- Provide an effective CBRN detection, identification, warning, and protection system for each installation.
- Ensure integration of CBRN networks with existing command, control and communications, and augment capabilities to provide effective information management.
- Provide a CBRN protection capability that will allow for rapid restoration of critical installations operations.
- Protect Defense Department civilians, contractors, and other persons working or living on U.S. military installations and facilities from a weapon of mass destruction event.

The IPP will leverage existing emergency preparedness and response, physical security, communications, surveillance, and infrastructure assets while minimizing the impact on installation operations.

mile radius of Washington, DC. The diagnostic codes are grouped into "syndromic clusters" consistent with emerging infections including those associated with bioterrorism. ESSENCE was motivated by the recognition that Washington, DC is a natural target for bioterrorism. Also, due to the multitude of state, city and county jurisdictions, establishment of a coordinated syndromic system for the NCR area was challenging and proceeding slowly. However, through daily data downloads, traditional epidemiological analyses using historical data for baseline comparisons, and more cutting edge analytic methods such as geographic information system (GIS) approaches, the feasibility of the ESSENCE methodology has been established. Insight into system performance was obtained through monitoring of naturally occurring events such as annual influenza outbreaks and routine outbreaks in young children.

Following the September 11, 2001 events, ESSENCE was deployed to virtually the entire Military Health System. Currently ESSENCE downloads outpatient data each day from 121 Army, 110 Navy, 80 Air Force, and two Coast Guard installations around the world via the Tricare Management Activity (TMA). More than 2,700 syndrome- and location-specific graphs are prepared daily and automatically analyzed for patterns that suggest a need for further epidemiological investigation. Beyond these centralized assessments, the graphs are available daily to approved DoD public health professionals via secure web site. DoD public health professionals interested in access to the secure ESSENCE website can apply to Essence@na.amedd.army.mil.

In operation, data is downloaded into ESSENCE every eight hours and graphs of syndrome groups are automatically created. Using historical data, a prediction of normal ranges can be performed. In the current ESSENCE version, time and location analysis tools are utilized to give the user multiple views of current trends. Data visualization can be performed with the GIS tool. Cases can be plotted by patient zip code and GIS capability will help determine if a syndrome outbreak includes a geographic component and may aid in locating the source of the disease outbreak if it is from a geographic point source. GIS may also help aid in predicting the extent of the affected population to better allocate response resources. While patient identifiers are immediately removed upon receipt of the data from the TMA, in the case of a public health emergency, it is possible to trace the information back to contact patients affected if necessary.

Currently, most of the ESSENCE data is received within one to three days of a patient visit, longer than ideal for an optimal reaction to a potential bioterrorism event. However, recent work with TMA has revealed multiple points in the data stream where, with minor reprogramming, the automated data transmission cycle should become much quicker. It is possible to decrease the data lag to one day through improved timely reporting, faster data transmissions and more frequent data uploads.

Multiple versions of ESSENCE have been developed and ESSENCE IV will be deployed as part of Project Guardian's Instillation Protection Program (IPP). The IPP is the Department of Defense's first effort to field a full spectrum of chemical, biological, radiological and nuclear protection capabilities to military installations and DoD owned or leased facilities. ESSENCE IV contributes to the overall IPP mission by helping to protect DoD civilians, contractors, and others working or living on U.S. military installations and facilities from a weapon of mass destruction event.

ESSENCE IV combines the best features of previous versions and allows integration of both military and civilian health care data to improve force health protection capability. The Guardian IPP will work directly with each of the Services to develop a IPP concept of operations to ensure the timely and accurate flow on syndromic medical information from the ESSENCE user to the installation commander to facilitate the decision making process regarding increased surveillance, restriction of movement and medical preventive measures.

The first sign of a bioterrorism attack may be a red flag on a computer screen in a small community. Early detection through effective medical surveillance systems allows early and effective use of preventive measures and can be the difference between a cluster of treated cases and an epidemic.

JPEO-CBD

Supporting Our Warfighters

CONFERENCES 2005

DoD Chem-Bio Advance Planning Briefing for Industry	April 25-26	Washington, DC
Force Protection Equipment Demonstration	April 26-28	Quantico, VA
US Coast Guard Innovation Exposition	May 2-5	Santa Clara, CA
Collective Protection Conference *	June 21-23	Monterey, CA
Association for US Army (AUSA) Medical Conference	June 27 - July 1	San Antonio, TX

NOTE: There will be no World Wide Chemical Conference (WWCC) in 2005. The next WWCC will be June 26-30, 2006.

** New Addition*

The Department of Defense Chemical and Biological

NON-STANDARD EQUIPMENT REVIEW PANEL (NSERP)

By Mr. Larry Bocknek, Principle Engineer, NSERP, Camber Corporation

As events unfolded on September 11, 2001, those in charge of the command posts and emergency operations centers in New York, Virginia and Pennsylvania became concerned that the terrorists might have brought with them chemical, biological or nuclear material. As the incidents progressed, and the hazardous material crews went about analysis and detection, it became quickly apparent that there were limitations in the crew's detection capabilities. Some equipment was untested for the types of agents being looked for, and others were purchased on the promise that they were "bio agent" or "chem warfare" capable, only to find out they were not.

Over the last three years, this gap in capabilities has led to a marked increase in private industry's effort to supply Chemical Biological Radiological detectors to both the civilian first responder market and Department of Defense (DoD) assets engaged in non-warfighting consequence and incident management. In order to put additional capabilities in the hands of those units that were to be engaged in non-military operations or civil support activities, several pieces of detection equipment were procured by the Services that once put in use, proved to be neither as capable nor as effective in their performance, as claimed.

As a result of these purchases, in February 2003, the Assistant to the Secretary of Defense for Nuclear, Chemical and Biological Defense (ASTD CBD), Dr. Dale E. Klein, issued a memorandum stating that all chemical and biological defense equipment (CBDE) would be independently tested and the capabilities proven before being procured. In March 2004, Dr. Klein clarified the types of equipment covered and narrowed the focus further, stating "…the Services may purchase equipment that meets approved national standards provided (it has been) through independent civilian or government testing." He also created the Chemical and Biological Defense Equipment Review Panel, chaired by Brig. Gen. Stephen V. Reeves, the Joint Program Executive Officer for Chemical and Biological Defense (JPEO-CBD). The purpose of the panel is to "serve as a review board for (existing and future) Service Chemical Biological Defense Equipment (CBDE) purchases for consequence management purposes where DoD or national CBDE standards do not exist…." Then in December 2004, Dr Klein issued a memo formally recognizing the Charter for the Chemical and Biological Defense Non-Standard Equipment Review Panel (NSERP) and directing an inventory be done of existing CBDE, not meeting standards, that had been procured since February 2003.

THE NSERP PROCESS

The NSERP is made up of four permanent members: the JPEO-CBD (chair), Joint Science and Technology Office (JSTO), Joint Requirements Office (JRO) and Office of Secretary of Defense, Installations and Environments (OSD I&E). The process for determining if a particular piece of equipment needs to go through the NSERP process is straight forward. If the material/equipment in question is going to be used by the warfighter to engage in military operations, then it is not a candidate for the NSERP process. If on the other hand, the material/equipment in question is going to be used to engage in non-military operations or civil support incident management/ consequence management that relate to incidents involving chemical and/or biological agents, then it should be submitted to NSERP for evaluation. The

NSERP evaluation is focused on looking at the safety and testing performance of a submitted item.

To meet the goal of a 30 day turn-around, NSERP is taking advantage of virtual meetings, automated notifications and a web based work flow and submission process. Each Service has their point of contact for submitting packages, and when assembled, the Service point of contact electronically uploads them into the NSERP workflow. Emails are sent to the members and the NSERP Independent Reviewer. The Independent Reviewer will evaluate the submitted package, looking for completeness and the necessary test results. If gaps are identified, the package is returned, and a request for the missing information is made. Once that missing information is assembled, the package is re-submitted. The Independent Reviewer again evaluates the package and makes one of three recommendations to the full panel. 1) Recommend panel approval, 2) Recommend panel not approve, or 3) Can't make a recommendation based on submitted information; the panel should ask for additional information and/or test results to be supplied. The Independent Reviewer will be applying existing National Standards, Occupational Safety & Health Administration (OSHA), the National Institute for Occupational Safety & Health (NIOSH), in approving the submitted requests, and where independent third party tests are not available, referring the submitting Service to the JSTO for help in attaining necessary testing and evaluation assistance. Once the recommendation has been made, the panel will be notified that the package is ready for full NSERP review. The panel meets and discusses the recommendations then submits their finding to the JPEO for final action. It is important to understand that the JPEO's approval is on a specific Service request for procurement. Going through the NSERP process does not change the existing Service procurement requirements' process and does not, in any way, authorize a sole source procurement.

BENEFITS OF NSERP

The Services will be assured that safe, suitable and effective capabilities and materials are being procured. The NSERP process will result in the development of a centralized database and approved items will also be incorporated into the Joint Acquisitions CBRN Knowledge System or J.A.C.K.S, thereby allowing the Services the ability to choose equipment and materials that meet nationally recognized standards. By following the NSERP process, there is a greater chance of achieving interoperability with local first responders. With DoD behind this effort, there will be a push for all Government departments to adopt recognized national standards as the basis for procurement of future Chemical/Biological consequence management items.

For more information on NSERP, go to our web site, www.jpeocbd.osd.mil and click on the "CBD Non-Standard Equipment Approval Process" link.

Battelle Memorial Institute Photo

Photos by Steve Lusher

THE Greening Challenge

By Renee Korach, Joint Chemical Agent Detector Systems Engineer, JPM NBC CA, Edgewood Chemical Biological Center

As a recently hired engineer working for the Joint Project Manager, NBC Contamination Avoidance (JPM NBC CA), I was presented with an opportunity to experience my customer's environment firsthand by participating in a unique training program. Called the Greening Program, it suggested that I could travel to Fort Leonard Wood, MO, and live the life of the Soldier for a week.

Four other recently hired Edgewood Area engineers – Jason Adamek, Chris Gaughan, Christy Hoppe, and John McFadden (John is also a JPM NBC CA intern) – took the Greening Challenge. "Greening," a training program conducted by the Natick Soldier Center's (NSC) Operational Forces Interface Group (OFIG), is intended to provide professional development to Department of Defense (DoD) civilian engineers by offering them an opportunity to briefly experience what the soldier must endure in order to perform a military mission proficiently in a harsh environment. Our unit was D Co, 82d Chemical Battalion, and we were embedded with students in Advanced Individual Training (AIT). The unit was executing its Phase V Field Training Exercise (FTX) from December 3-8, 2004, during which they were to practice all of the training they had received in AIT as they trained to be qualified in Military Occupational Specialty (MOS) 74D (NBC Specialist). Many of the daily concerns of Soldiers were brought to life for us as we personally endured the hardships of clothing, equipment and the elements that Soldiers must undergo every day.

Once we arrived at Fort Leonard Wood, Sgt. 1st Class Sam Newland and Spc. Otoniel Rivera of NSC were our guides and liaisons between the group and the host unit. Before arriving at Fort Leonard Wood, we were issued all the necessary clothing to make us fit in and look like Soldiers. We were amazed at all of the clothing and equipment we would be required to pack into a rucksack that looked too small to hold anything more than the sleeping bag. We arrived at the unit looking the part. There, we were then issued more gear: a protective mask, flak vest, and rubber rifle that looked like and weighed as much as an M16. All of our clothing and equipment was camouflage or green, and only currently issued items were authorized. We accompanied the soldiers in the field on the FTX, from the time they left their barracks to the last day of training. It was extremely beneficial to be embedded with a platoon full-time, rather than participating as a part-time civilian observer. Jason Adamek stated that the experience "allowed us to interact with Soldiers and discuss their likes and dislikes regarding equipment."

To begin the journey, we marched in full gear to a pickup point and piled onto cattle cars with no windows. We were all packed like sardines with roughly 70 Soldiers per truck. Rucksacks were resting on Kevlar helmets, weapons were in uncomfortable positions, and bodies

were bent and stretched. The cattle cars took us to the field site where we set up camp. Throughout the week, we ate both meals-ready-to-eat (MREs) and assembly-line-style warm meals (aka hot chow), slept on cots in groups of on average 30 (in tents made for 12 to fit comfortably), and really felt like Soldiers. Carrying a rubber weapon for the duration of the program definitely added to the realism of the FTX. We could never leave the weapon. The weapon had to always be in hand and accounted for.

In the days that followed we accompanied the Soldiers on their daily duties and in fact participated in many missions. These missions included a radiological survey, a chemical survey, operational decontamination, detailed equipment decontamination, and detailed troop decontamination. Christy Hoppe stated, "This part of the experience was especially interesting because we were able to see the equipment that we help design being used in the field. It was great to see how the procedures were actually executed, rather than [just] reading about them in a technical manual."

The Edgewood Greening group. Back row let to right: Spc. Otoniel Rivera, Renee Korach, Christie Hoppe, Chris Gaughan, Sgt. 1st Class Sam Newland, Front row left to right: Jason Adamek, John McFadden.

On the last day of training, Sgt. 1st Class Newland formed us up and took us on a three-mile road march, with a CS gas attack at the halfway point. This event provided a good perspective on the importance of designing reliable, robust, lightweight equipment. Additionally, it reinforced the fact that all equipment must be easy to use. During AIT only a limited amount of time was available to learn about each device, and even less time was given for hands-on experience. After witnessing the soldiers carry out duties in a night environment, we understood why equipment must be easy to operate and attract little attention from the enemy, being both silent and virtually invisible from a distance. John McFadden summed up the experience when he said, "I experienced the confusion of an ambush, the omnipresent oversight of drill sergeants, the strain of a road march with full rucksack, and the fear of hearing a 'pop' followed by dreaded screams of 'Gas! Gas! Gas!'"

There were several mottos and "soldier talk" we learned were important to live by while out in the field. We had to adjust to a somewhat new language including the following phrases: "hooah," "drill sergeant, yes, drill sergeant," "hasty's," "chow," "weapons count," "stand-to," "fall in," lights out," "getting smoked," "prop," and "hurry up and wait." One would almost think Soldiers were speaking a different language. Furthermore, we quickly learned how to "fall in" to formation; stand at attention, parade rest, and at-ease; and perform left-, right-, and about-face maneuvers. Teamwork was a watchword for the entire company and it became an important watchword for us as well while we watched, participated, listened and learned about our customers when they were at their best.

Adjusting to the outside life with few amenities proved to be the most challenging of all. Not having adequate time to eat, running water, lights, or a working toilet fell into the category of things we as civilians take for granted each and every day. Though our tiredness and soreness were not enjoyable, the experience brought to light the everyday life of a Soldier and the conditions in which he/she is expected to function. Chris Gaughan provided the following anecdote: "During the afternoon of the first day in the field, my civilian battle buddy, John McFadden, an alternating pair of privates, and myself were given the privilege of digging a regulation size foxhole with a depth to the shoulders of the tallest man in the company, in our case 6' 3", which was described by a Specialist to be a three-day task. Through the dark, rain, and soreness associated with breaking through solid rock, the mission, just one of many for each private, had to continue and in fact was completed in roughly a day."

Overall, our training was a tremendous success and in fact, an outsider would have never even known that five civilians were embedded among the ranks with trainees, officers, and drill sergeants. We learned much about the Armed Forces and their need for engineers. Now, we have a greater appreciation and direction for our work. We will be able to use the experience to maintain true customer focus and develop the right equipment the Soldier needs to accomplish the mission. We thank Sgt. 1st Class Newland and the Operational Forces Interface Group for providing us the opportunity to participate in this program, and offer special thanks to Specialist Rivera for coming along for the ride and providing his excellent insight. "Hooah!!!"

For more information on participation in this program, contact Mr. Max Biela at 508.233.5413 or max.biela@us.army.mil.

UCS Providing Crisis Communications Vital in Support of Homeland

By Lt. Col. Charles Cecchini, Product Manager, Weapons of Ma

Rapidly deployable, reliable and secure communications are vital to first responders in making sense of the chaos surrounding emergency situations, and informing decisions for effective response. Together the Army and the Navy have developed and fielded a universal, state-of-the-art technology in support of homeland security that makes these communications possible, even in the wake of such devastating terrorist attacks as September 11, 2001. This capability is called the Unified Command Suite (UCS).

Current homeland security efforts call for cooperation and collaboration among various emergency response organizations from all levels of government. These groups assess a crisis situation and help coordinate response actions. However, they face the challenge of communicating with each other using different types of equipment.

To address the requirement for exceptional communications capability, the Product Manager, Weapons of Mass Destruction-Civil Support Systems (PM WMD-CSS), working for the Joint Project Manager Guardian (JPMG) and Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) along with the Special Communications Requirements (SCR) division of the Naval Air Systems Command, St. Inigoes, MD, designed and fabricated the UCS for the National Guard's Weapons of Mass Destruction Civil Support Teams (WMD-CST).

The CST's primary mission is to assist civil authorities at domestic chemical, biological, radiological, nuclear and high-yield explosive events by identifying agents or substances; assessing current and projected consequences; advising on response measures; and assisting with requests for state and national support. CST units provide first responders with critical and near-immediate assistance after an attack, which includes reach-back communications.

The UCS is a communications suite loaded with state-of-the-art communications equipment. This ensures maximum interoperability with local, state, federal and Department of Defense assets. It has access to four satellite links, including ultrahigh frequency (UHF) and very high frequency (VHF) satellite communications (SATC OM); 800-megahertz communications capabilities, such as those used by local fire and police departments; international maritime satellite (INMARSAT); commercial Ku-band and Iridium low-earth-orbiting satellite telephones; CST intercommunications; secure and standard telephones; non-secure Internet protocol router network (NIPRNET); and secret Internet protocol router network (SIPRNET) connectivity. A cross-patching capability allows users with different systems, such as officials from various jurisdictions, to communicate directly with and transmit real-time video from members of the CST unit at the incident site to higher authorities.

The UCS is a mobile unit. Because of its commercial-off-the-shelf GMC-6500 truck low-profile chassis and custom body enclosure, the UCS can be shipped to any location in the world via C-130 aircraft. By land, the UCS rolls to location under

the power of its 210 horsepower diesel engine. After rapid set-up on-site – usually within an hour of the CBRNE event – the UCS is a self-powered unit that runs all of its capabilities by a built-in 15-kilowatt diesel generator, 28-volt direct current (DC) alternator, and 28 voltage DC battery bank.

The UCS is part of a two-unit capability. The critical communications that are sent from the UCS come from analytical data received from the UCS sister system, the Analytical Laboratory System (ALS) (see Jan-Mar issue of Chem Bio Defense magazine). The ALS allows rapid on-site analysis of the nature of any CBRNE event, and provides that information to the UCS, and the UCS provides reach-back for the ALS to local, state and national laboratories, such as the CDC and state health departments, which are then able to confirm on-site analysis of the event.

The UCS has two Harris PRC-117F transceivers and one AN/VRC-103 that provide AM/FM SATCOM demand assigned multiple access, voice/data and Havequick/single channel ground to air radio system capabilities. These units allow Type I security in the 30-megahertz to 512-megahertz band while providing interoperability with various military units. A secure high frequency long haul Motorola MICOM 2R unit enables 2-megahertz to 30-megahertz single-side-band voice and data. This system allows over-the-horizon communications with state emergency management and other military units. An INMARSAT M4 with high-speed data provides satellite digital voice/data, Internet service via integrated services digital network Web access, and an order wire connection until higher bandwidth circuits can be established.

Security

ss Destruction Civil Support

The UCS also features two Motorola Astro Consolette base stations and five tactical digital intercom system (TDIS) remote-control stations. The base stations provide a 50-watt VHF/UHF, and data-encryption-standard secure communications capability for intra-team and emergency management operations that is compliant with Association of Public Safety Communications Officials standards. The TDIS units provide eight radio connections to five remote consoles, a global/private intercom, and a cross band repeating capability. A transportable Global Systems Technologies 2.4-meter Ku-band fly-away commercial satellite antenna and associated electronics and security equipment include a 16-port multiplexer to provide both secure and non secure networking capabilities. The large dish may be disassembled and stored in the UCS during transport, and is designed to be operated at a distance from the vehicle to allow communications in an urban canyon environment. National communications are supported through a secure satellite capability. Eight VHF/UHF Motorola XTS-3000 VHF/UHF/800-megahertz handheld transceivers enable a secure internal and external communications capability.

The SCR division designed, developed, tested and delivered the initial CST vehicle in approximately 12 months. The remaining CST systems all have been delivered on time and within budget despite a very aggressive production schedule. Seventeen systems were fielded five months after the terrorist attacks on September 11, 2001. This input, coupled with suggestions from CST operators, optimized system utility from both a technological capability and human factors standpoint. The basic system consists of a hybrid of militarized and commercial communications components designed to maximize transportation, operational and support capabilities while minimizing space, weight and cost.

UCS operator training and specialized instruction are provided to the CSTs at the SCR division facility as part of the teams' certification process. The SCR group also provides ongoing technical support and assistance directly to user facilities across the nation.

WMD-CST units and the UCS system have demonstrated outstanding performance in real world crises caused by terrorist attacks. The 2d WMD-CST unit with a UCS based in Scotia, New York, was deployed to ground zero at the World Trade Center on September 11, 2001. Because of the level of destruction and the loss of normal communications connectivity, the UCS provided a primary on-site local and national communications capability during the critical first 24 hours after the disaster. Contingency communications support was provided to the Federal Bureau of Investigation (FBI) on-scene commander, whose communications capability had been damaged as a result of the attack. The CST UCS enabled the FBI to transmit the first on-scene images of the attack to the FBI's Strategic Information Operations Center in Washington, DC. The National Guard official lessons-learned report indicates that the UCS is the most important piece of equipment on the team, offering "no-fail" communications for incident and/or on-scene commanders until their own communications connectivity is established.

While the clear hope is that the UCS and the WMD CST units will never again be required, the reality is that these units are consistently in a high state of readiness to provide a unique capability and valuable homeland security assistance should disaster strike. The UCS has assisted in many hundreds of homeland emergency situations since September 11, 2001. The PM continues the process of deploying additional UCS to the CSTs and is expected to complete deployment by the end of FY05 that will cover our homeland in all 50 states and four territories.

Unified Command Suite (UCS)

Joint Warning and Reporting JWARN Network

Acquisition Transformation at Work

By Vern Wing, Deputy Acquisition PM for JWARN and Sam Spadaro, JWARN User Liaison

The Joint Warning and Reporting Network (JWARN) is a computer-based application that networks Nuclear, Biological, and Chemical (NBC) sensors directly with Joint and Service Command and Control (C2) systems. It consists of software segments operating on the C2 systems and hardware elements that provide both the physical substrate for sensor connectivity and the architecture for a wired or wireless connection to the host C2 platforms.

JWARN Mission Application Software (JMAS) automatically receives alerts from the sensor network, generates a plot of the hazard area, displays it on the Common Operational Picture (COP), and generates the warning message to units within the hazard area. JMAS also provides the means to configure, monitor and manage the sensor network. The hardware component of JWARN, the JWARN Component Interface Device (JCID), provides physical connection to legacy and developmental sensors and the connectivity to the C2 network. The JWARN operates in near real-time and replaces the current manual process of incident reporting, hazard plot generation, and warning of affected forces. It reduces the time from incident observation to warning to less than two minutes, enhances situational awareness throughout the area of operations, and supports warfighter battle management tasks.

A Transformational Acquisition Strategy

Upon successful completion of Milestone B in July 2003, program management responsibility for the JWARN program was transferred to the Joint Project Manager for Information Systems (JPM-IS). A review of the acquisition strategy resulted in revisions that enhances capability, reduces program costs, and mitigates technological risk.

The original strategy included a waterfall development and procurement in two distinct blocks with the associated testing and milestone decisions in each block of development. The revised strategy pursues a spiral development that eliminates an operational test, the partial system known as Block II, an interim milestone C for Block II and a milestone B for Block III. In addition to cost savings incident to the revised strategy, this new strategy will deliver the full JWARN capability well ahead of the old schedule.

The keys to the success of the revised acquisition strategy are in transformation of the acquisition process. This transformation was motivated by the need to rapidly develop the system, to get its functionality into the hands of the warfighter in the most expeditious manner possible, to ensure that the product meets the performance specifications delineated for the system, and to ensure that it provides the right capability -- one usable by the warfighter. The most significant aspects of acquisition transformation embodied in the strategy are:

- The early development of an operational prototype called the JWARN Initial Capability (JIC).
- Early and frequent involvement of the warfighter through user assessments of the evolving JMAS software.
- Development of a JCID prototype.
- Integrated Management Structure.

Systems Development

The JWARN has recently completed the first phase of its development. JMAS software is operating on Common Operating Environment (COE) based Global Command and Control Systems (GCCS). During the second phase of the spiral development, JMAS functionality will be extended to the non-COE based tactical C2 systems while concurrent development of the JCID proceeds.

The JWARN Initial Capability (JIC) Role

The JIC is an operational prototype of the JWARN that provides a sensor-to-C2, end-to-end emulation of the system. The JIC was successfully demonstrated less than three months after program transition at the Worldwide Chemical Conference (October 2003) and, one month later with additional functionality at the US Special Operations Command Conference in Tampa, FL. Most

recently, it was demonstrated at the US Army Chemical School, Fort Leonard Wood, MO, with the final JMAS phase one implementation. Upon completion of testing this summer, the JIC will be provided to 9 sites, involving all Services and the US Coast Guard, and will provide the various commands with an opportunity to exercise the JWARN as it evolves.

The sites will receive the benefit of early exposure to the system, which will allow them to use the JIC to refine Concepts of Operations (CONOPS) and Tactics, Techniques, and Procedures for the employment of the system. Additionally, these commands will give JWARN a broader exposure to the warfighter during system development. Feedback from this exposure will be utilized to modify the system and will therefore help to assure that the system that is delivered reflects the priorities of the warfighter. The JIC provides the means to reduce product development cycle time by infusing warfighter feedback into system design and implementation.

While user feedback and early exposure to the evolving system are advantages in themselves, the JIC also provides the opportunity to infuse science and technology into a program of record. As new, relevant technologies are explored, the JIC provides the operational "brassboard" on which to experiment. Developmental sensors are but one example of evolving technologies that can be evaluated using the capabilities of the JIC.

JWARN provides the means to transition from manual input of messages and hand-generation of hazard areas using paper maps and acetate overlays to computer assisted warning and reporting. This transition implies new training will be required. Computer based training aids are included in the JWARN system and the JIC provides the means to evaluate the efficacy of this support. Evaluation of required training, early in the development cycle, has important impact on the reduction of life cycle costs for the system.

The JIC will be used to generate operationally relevant feedback from the warfighter to the developer. The goal is to refine the JWARN implementation during development, not after fielding. As the software evolves, the JICs will evolve also, with additional functionality incorporated as it becomes available.

The JIC will provide state-of-the-art capability and will support a stable environment for user assessments, demonstrations, exercise support, development, integration and testing. Finally, the JIC enables additional and more frequent opportunities for the warfighter to interact with the system - - early in the development cycle.

Warfighter Input

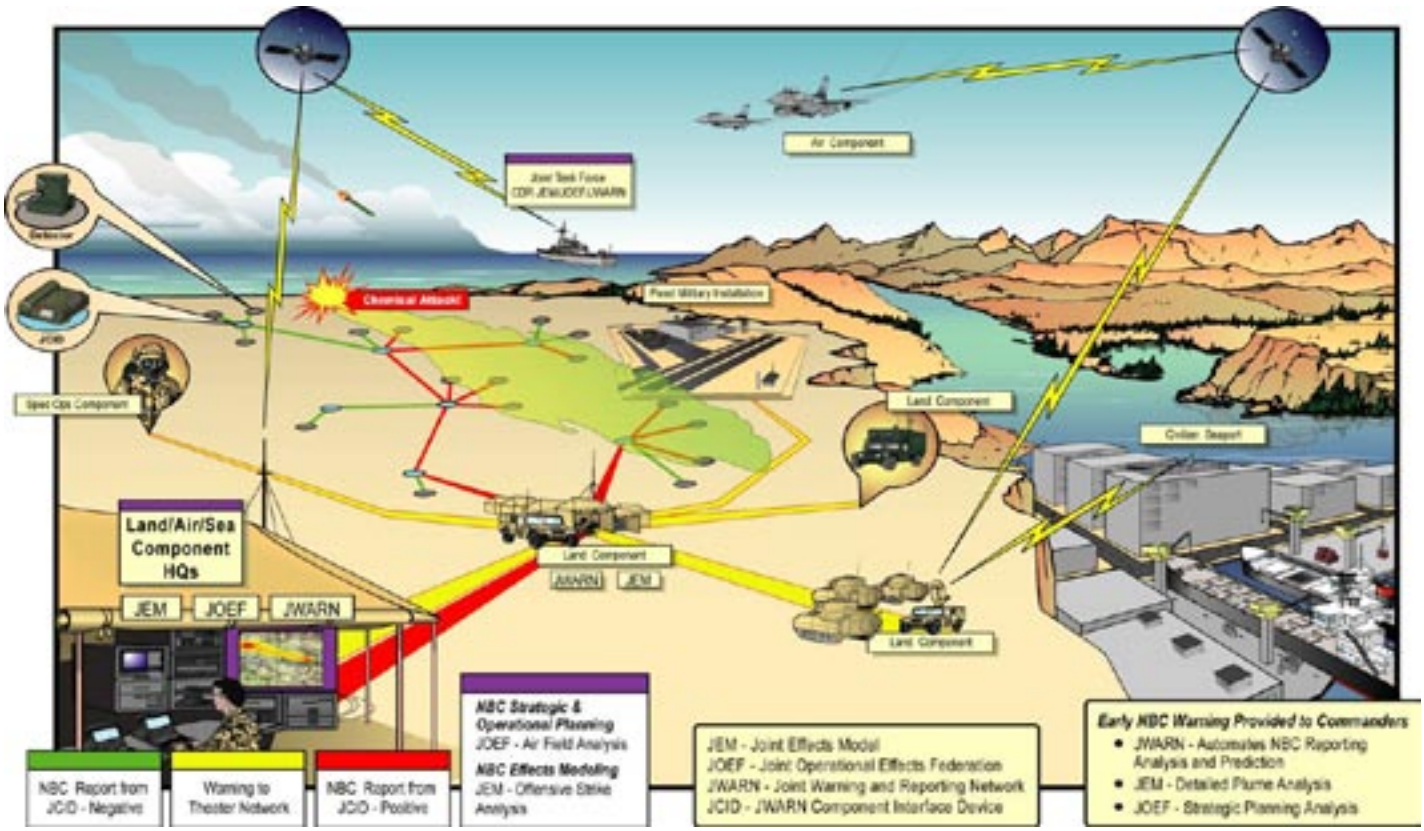
A key aspect of the transformation has been the early and frequent use of user assessments to refine the development of the system. During the phase one spiral of development, four user assessments were conducted. User assessments complement the JIC in collecting feedback that is used to influence design and implementation. The user assessment goals are to:

- Provide early, frequent, and routine exposure of warfighters to the system as it is being developed.
- Solicit warfighter feedback based on that exposure.
- Ensure that warfighter feedback is understood and acknowledged by the developer.
- Assist both the warfighter and the developer in clarifying and understanding the Operational Requirements Document (ORD) and the Performance Specification.
- Provide the means to track progress by the developer in accommodating alterations and modifications sought by the user.

Inherent in the revised acquisition strategy is the requirement to bring the full benefit of collaboration of all the stakeholders to bear on the develop-

Photo by Brien Aho

A Soldier from 2nd Battalion, 256th Brigade Combat Team, V Corps, prepares his Humvee's "Blue Force Tracker" before going on patrol in Baghdad, Iraq.



ment of the JWARN. User assessment events bring together the user, test and evaluation, integrated logistics, program management, and developer communities. During the four user assessments conducted during phase one of the program, warfighters with Operation Enduring Freedom and Operation Iraqi Freedom experience were used to provide the assessments. These same warfighters collaborated in the development of several operationally relevant scenarios, which provided a consistent thread through the four assessments. In addition to providing the means to generate feedback, the scenarios provided the developer with an end-to-end assessment tool that assisted in testing the system, they provided the JRO with a basis for developing a Joint CONOPS, and are being used as an early foundation for Operational Testing, and are being used to refine the US Navy CONOPS.

Through user assessments, the developers gained a thorough understanding of the warfighter comments and needs through actual observation of how the system is employed and through participation in discussions with the users as they sought to gain consensus on the issues they raised. As with commercial software development, it has been clearly demonstrated by these assessments that software developers build better software if they understand the environment in which it will be employed. During one of the assessments, software engineers suited up in full Mission Oriented Protective Posture (MOPP) gear and attempted to use the system. This simple experiment hammered home the importance of ease of use in Graphical User Interface design in a way that hundreds of "performance specifications" could never have achieved.

These early assessments, demonstrations, exercises, and experiments provided consistent, early user exposure to the system while system design and implementation could still be impacted. This strategy has shown the potential to dramatically reduce risk and eliminate costly rework.

The JWARN Component Interface Device Prototype (JCID-P)

The JCID is the hardware component of the JWARN system. In addition to providing the physical interface to the sensors and the structure of the network, these devices will perform certain software functions to support system operation. For example, software in the JCIDs will be used to manage sensor mode of operation, conduct sensor built in testing, and will be designed to minimize false positive and false negative indications from the sensors. Additionally the JCID software will consolidate sensor data reporting, sensor network management and provide standalone alarm capability. Key design considerations remain to be resolved with respect to memory size, processor speed, and power requirements as well as the proper distribution of JMAS functionality between C2 hosts and the JCID.

The strategy is to procure a limited number of prototype versions of the JCID (JCID-P) and to deploy them to the JIC sites. The JCID-P will allow exploration of the tradespace and based on user feedback will provide insight to the developer prior to committing to a final design. This strategy supports the main objective of the acquisition to deliver the right solution - - the first time -- and to avoid costly rework and program delays.

An Integrated Management Team

In addition to the JWARN, JPM-IS is responsible for the management

and procurement of two related CBD programs. The Joint Effects Model (JEM) will initially provide a DoD standard modeling capability for hazard area prediction. Later, its functionality will be extended to model phenomena that are currently not within the CBD toolkit to include high altitude intercept, urban transport and deposition, and building interiors. The Joint Operational Effects Federation (JOEF) will further extend Joint CBD capabilities by supporting operational planning and consequence management. The ORD requires JWARN to interoperate with these systems with a long-term goal of full integration. Because these programs are highly inter-related and because the users of the systems will, in many cases, be the same organizations and personnel, JPM-IS created an integrated management team from the inception of the JWARN program.

An integrated management plan was developed to include all three programs to mitigate risk. This management structure provides visible, coordinated and cross-program consistency.

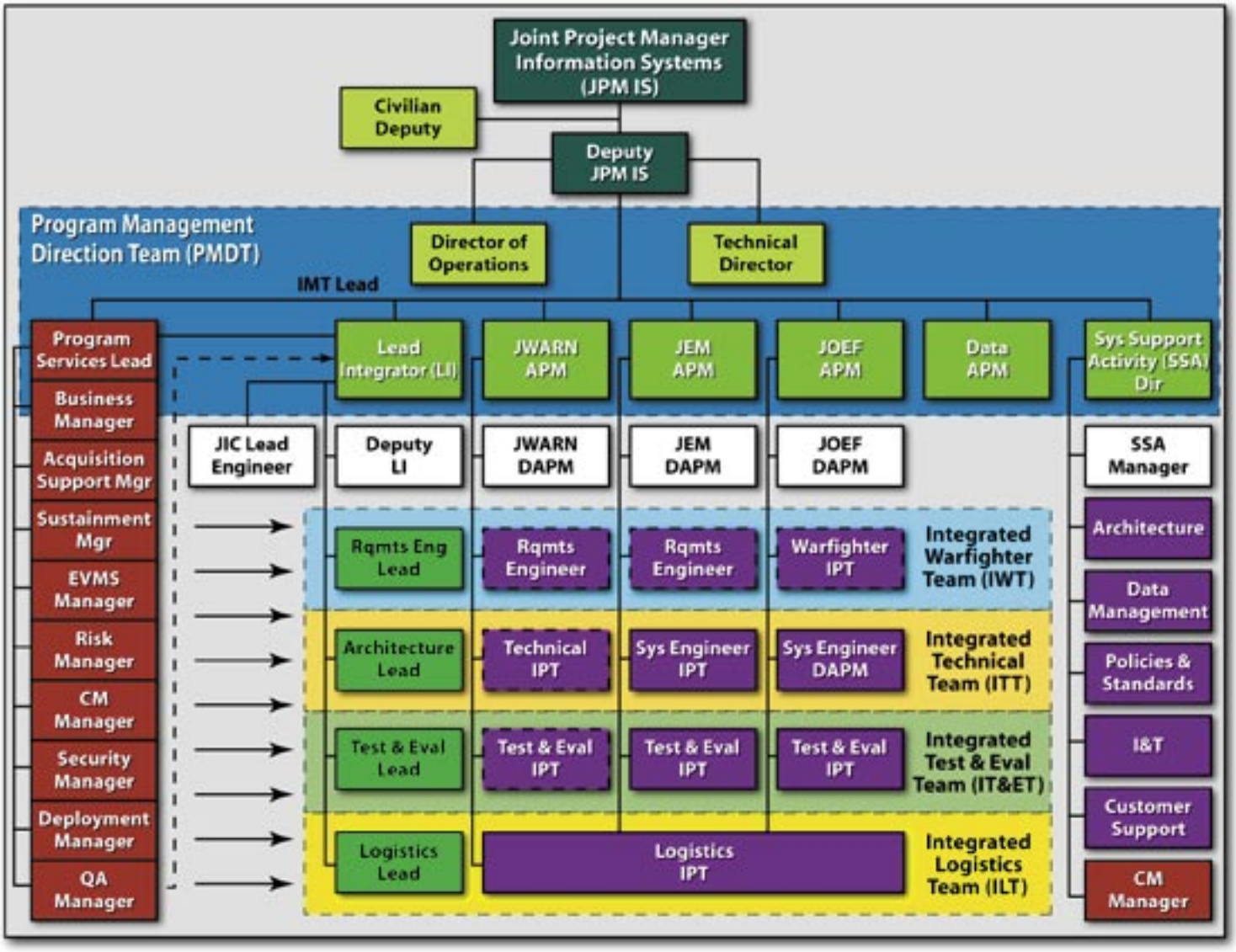
Specifically, the matrix organization is a combination of systems engineers, test and evaluation engineers, requirements engineers and logisticians from all three programs.

The Integrated Product Teams (IPTs) work to address specific program issues as well as the integration of JWARN, JEM and JOEF. Additionally, the JPM-IS team has developed a four-phase integration plan that provides for a common, cross-program architecture that will be the basis for full integration.

In addition to taking advantage of the synergy of coordinated development, this approach is leading to cost savings through the elimination of duplicate work and minimization of staffing.

Conclusion

In executing the JWARN program, JPM-IS has embraced the spirit of acquisition reform. The JWARN acquisition team has found several innovative ways to improve the process and accordingly reduce technological risk, reduce program and life cycle cost, while improving speed to capability. The JWARN team's goal of delivering a system to the warfighter that meets or exceeds requirements at a lower cost and in a shorter time period will be realized through revolutionary thinking, innovation, and evolutionary software development practices.



LETTERKENNY SUPP GLO

By Kim Ryan, Letterkenny Army Depot Public Affairs Office

In September 2001, Letterkenny Army Depot (LEAD) and the Edgewood Chemical Biological Center (ECBC) formed a partnership to provide improved teamwork and continuity for greater service to the nation's Chemical and Biological programs. The tragic events of September 11, 2001, heightened the public awareness of the threats posed by biological terrorism. LEAD has played a vital role in the nation's Global War on Terrorism ever since. This partnership has grown and Letterkenny is now heavily involved in several biological detection programs.

Though discussions had begun prior to September 2001, these tragic events have underlined potential vulnerabilities of the United States. The number of countries pursuing an offensive biological warfare program continues to increase. With this increase, the priority of the Army's Biological Defense Program is to limit the effects of large area biological warfare attacks.

Letterkenny and the Program Managers office signed an agreement to co-produce the M31A1 Biological Integrated Detection System (BIDS). The BIDS was designed by the BIDS Team under the then Soldier and Biological Chemical Command of the U.S. Army at Aberdeen Proving Ground in Edgewood, Maryland. Letterkenny completed shelter preparation and assembly, fabrication of a variety of components, including brackets and wiring harnesses, and the operation of the scientific suit.

BIDS is the U.S. Army platform for the Joint Biological Point Detection System (JBPDS), a self-contained chemical and biological detection system. BIDS provides a shelter mounted on a High Mobility Multipurpose Wheeled Vehicle Heavy Variant or field based to support the JBPDS with commercial line power, emergency back-up power, specialized heating, ventilation, and air conditioning, as well as communication and networking equipment.

BIDS is designed for defense against the most catastrophic of biological warfare attacks—a long line source. The doctrinal employment concept for the BIDS is to deploy one company of 35 BIDS to an Army Corps or a Joint Task Force. The BIDS systems are then deployed throughout the Corps' area to create a wide area sensor array/network. Any detection is reported directly to company headquarters. Letterkenny is currently assembling and integrating the M31A2 BIDS. The "A2" is an improved version of the M31A1 and includes a self contained generator and the Army standard JPBDS detector.

> *"The tragic events of September 11, 2001, heightened the public awareness of the threats posed by biological terrorism."*

Letterkenny assisted in the prototype efforts for the JPBDS BIDS and completed the design work on the generator release mechanism, electrical distribution, component fabrication, and built and issued the Basic Item Issue kit. LEAD is currently expanding its involvement in the system integration. In addition to shelter preparation and assembly, LEAD has received training in system and vehicle integration and will transition the new responsibilities during FY05.

LEAN manufacturing techniques were implemented by the depot for the BIDS assembly. All shelters are drilled using automated/robotics with an accuracy of .002. Additional efficiencies have been realized through the application of material handling equipment and a pull system. LEAD projects to complete the LEAN analysis in FY05 with a projected annual savings of $500,000.

Letterkenny has successfully implemented LEAN in other areas including a return of $2.5 million to the Integrated Material Management Center (IMMC) at U.S. Army Aviation and Missile Command (AMCOM) in August 2004 for savings realized during the Avenger and Patriot RESET programs. In February 2004 Lt. Gen. Philip R. Kensinger Jr., Commanding General, U.S. Army Special Operations Command, received a ceremonial check representing $990,000 in savings that the depot realized through the application of LEAN principles on the U.S. Army Special Operations Command ground mobility vehicle modification program and in September 2003, Col. William Guinn, LEAD Commander, returned $1.2 million to the Patriot Lower Tier Program Office for savings realized on the Patriot RECAP program. Current projections predict LEAN savings at Letterkenny of $11.5 million from FY03 to FY05, and potentially $46 million thru FY09.

Letterkenny also partnered with the Edgewood Chemical Biological Center to prototype the JBPDS Military Trailer. LEAD fabricated and assembled components for 18 JBPDS trailers. These trailers use the same JBPDS detector as the BIDS. Letterkenny also reconditioned nine of the trailers used in the initial field tests. The trailer-mounted version is currently in test and evaluation.

Letterkenny has also assisted the Joint Program Executive Office for Chemical Biological Defense in the acquisition and manufacture of Joint Portal Shield (JPS) fixed-site detection systems. Joint Portal Shield is a network sensor system that provides automated biological point detection capability to protect high value fixed sites against biological weapons attacks. The sensor is modular in design and can detect and presumptively identify up to eight biological agents simultaneously in less than 25 minutes. It

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uses an aerosol collector and ultraviolet particle sizer and detects agents by means of immunochromatographic assay tickets.

Letterkenny successfully manufactured a number of the JPS units during FY04 and is now considered a second source of manufacture for this proven solution to the biological weapons threat. Letterkenny has established a core team of employees trained in the assembly and testing of bio detection systems with a capability to quickly respond in a time of need. This rapid response was demonstrated in February 2004 when Ricin was discovered in the Senate building.

Letterkenny and Lockheed Martin entered into a partnership agreement in April 2003 to produce dry filter units (DFUs). The DFU 1000 has been used extensively for biological detection including the Salt Lake City Olympics. Under the agreement, ACS Defense, Inc., provides engineering support and biological detection of peculiar parts. LEAD purchases off-the-shelf items and provides touch labor.

When Ricin was identified on February 3, 2004 in the Senate, Letterkenny was asked to expedite production of Dry Filter Units in support of the Ricin crisis. Letterkenny completed the required quantities on February 6th and the units were distributed to the required locations on February 9th. This 'rapid response' again proved Letterkenny ready and relevant to the nation's response to the global war on terrorism.

Col Guinn, and Team Letterkenny were recently recognized for their significant contributions to the Global War on Terrorism in a ribbon cutting ceremony at Aberdeen Proving Grounds. The Edgewood Chemical Biological Center (ECBC) and Letterkenny partnered to produce an extremely sophisticated filtration system that will remove toxic vapors and gases, sub-micron-sized particles and nuclear, chemical and biological agents.

ECBC is the Army's principal research and development center for chemical and biological defense technology, engineering and services. For the filtration systems, Letterkenny provided a variety of acquisition actions including the procurement of uniquely designed filter boxes. LEAD engineers and fabricators welded, fabricated, tested and integrated the various sections into single units capable of being hoisted into the new laboratory.

With the installation of the Advanced Chemistry Laboratory's (ACL) state-of-the-art filtration system, the ceremony marked another important milestone in the construction of the nation's most advanced chemical and biological research facilities. The 21-filter system has the capacity to filter 225,000 cubic feet per minute, and is composed of two types of filters: 18 Multiple Cell Radial Filters (MCRF) and three Fixed Installation Filters (FIF). The system, which exceeds the requirements for this kind of facility, will be an essential component of the ACL, making it the nation's premier site for work with 'military unique' chemical agents.

Mr. Jim Zarzycki, Technical Director, ECBC, championed the efforts of the partnership for "out-of-the-box" thinking, "Today is yet another important step in our journey to build what we feel will be the best chemical and biological research facility in the world." Mr. Zarzycki went on to say, "we realize our awesome responsibility when it comes to ensuring the safety of our associates and the general public, and this system will help us maintain the highest environmental safety level possible."

Col Guinn also commented on the importance of the partnership, "the Advanced Chemistry Laboratory Filtration System is an excellent example of the joint capabilities created by the LEAD/ECBC partnership. Through the combined effort of the LEAD/ECBC team, this procurement and installation was successfully completed. The partnership is a valuable tool for providing the warfighter with necessary equipment, at a reasonable cost, and in a timely manner. We look forward to continuing this great partnership."

BASEBALL HALL-OF-FAMERS WH IN THE CHEMICAL CORPS DURI

By Maj. Richard Gurtowski, Chemical Corps, USAR, Camber Corporation

It is widely known throughout the nostalgic baseball world that New York Giants pitcher Christy Mathewson, *the Big Six*, suffered from chlorine gas exposure as a Chemical Corps officer during World War I and later died of tuberculosis at a sanatorium in Saranac Lake in 1925.

But did you know that other legendary baseball Hall of Fame stars such as Branch Rickey, Ty Cobb and George Sisler, also served in the Chemical Corps during World War I, or as it was known then, the Chemical Warfare Service (CWS)?

Branch Rickey obtained the rank of Major in the Army's CWS and commanded a unit that eventually included Captain's Ty Cobb and Christy Mathewson and Lieutenant George Sisler.

The following is compiled from various baseball sources; "Ty Cobb had requested and received duty with the CWS. It was a puzzling choice. With his expert eye for distance and experience with hunting and guns, the Field Artillery would have best suited him. Cobb was well aware of the high risks with chemicals. Many native Georgians urged him to enlist elsewhere. At the time, Cobb offered only one explanation: 'Christy Mathewson and Branch Rickey are in Chemical – they are guys I like and are friends.' "

Cobb reported to the CWS in October, 1918 and was shipped off to Chaumont, France, the Allied Expeditionary Forces Headquarters, on October 6.

The most accurate and personal information on Cobb's warfare experience is referenced from his own autobiography "*My Life in Baseball,*" chapter 14 'A Whiff of Gas; a Job I Didn't Want.'

"I saw Christy Mathewson doomed to die. None of us who were with him realized that the rider of the pale horse had passed his way. Nor did Matty, the greatest National League pitcher of them all."

"We were at Hanlon Field near Chaumont, France when it happened." (Hanlon Field was an experimental station and home of the Allied Expeditionary Force's Gas School. It was named in honor of 2nd Lt. Joseph T. Hanlon of the First Gas Regiment, the first CWS officer killed in action. Hanlon Field was an auxiliary field, not in the combat zone, but extremely vulnerable to night and enemy aircraft attack).

The chapter continues; "Along with other sports figures, I enlisted in the Chemical Warfare Service in 1918, was given accelerated training in defense against the use of poison gas and was shipped overseas, pronto. George Sisler, Branch Rickey, Matty, myself and athletes from the gridiron, polo fields, and race tracks were assigned to the 'Gas and Flame Division' as instructors. I wore captain's bars. We had hundreds of Soldiers to train. We wound up drilling the damndest bunch of culls that World War I ever grouped in one outfit. The doughboys who came our way largely were hard cases and rejects from other services. The theory was that they would listen to well-known sports personalities – and to some extent it was effective. Those that gave us trouble and didn't heed orders didn't last long, for we weren't fooling around with simulated death when we entered the gas chambers. The stuff we turned loose was the real McCoy and meant to train a man to be on qui vive – or else."

Back in April, 1915, the Germans had first employed gases that poisoned and asphyxiated in the form of chlorine cylinders lobbed into the Ypres salient (Second Battle of Ypres). Use of the weapons horrified neutral nations and set the U.S. high command to seeking countermeasures. Chlorine-based mustard gas seared the lungs and often asphyxiated its victims. Phosgene gas was as bad if not worse; before they died, soldiers turned a livid purple in the face.

Gas knew of no rank: six weeks after Colonel Douglas McArthur reached combat, his eyesight was threatened by gas exposure and he went around blindfolded for a week.

The Allied casualties were heavy. Cobb continues in "*My Life in Baseball,*" "Then came mustard and sneeze gases, frightfully successful. Protective masks that were rushed into use were a joke at first. They were cumbersome affairs consisting of a mask that was fitted around the face, attached by a tube to a canister suspended around the soldier's neck and hanging in front of his body. He breathed air through a tube held in his mouth, from which the poison gases were filtered through charcoal and soda lime contained in the canister. A nose clip was supposed to prevent breathing through the nostrils. But men forgot the procedure or panicked. What's more, all that gear impeded a Soldier's movements, especially his ability to burrow into the ground when under machine gun fire.

By 1918, we had improved masks and a growing knowledge of the Kaiser's laboratories. One of our training exercises involved marching men into an airtight chamber in which gas was released almost without warning. At a hand signal, everyone was supposed to snap his mask

into position. Alertness and speed were the keys to success.

I'll never forget the day when some of the men – myself included –missed the signal.

Men screamed to be let out when they suddenly got a whiff of the sweet death in the air. They went crazy with fear and in the fight to get out got jammed up in a hopeless tangle.

As soon as I realized what had happened, but only after inhaling some gas, I fixed my mask, groped my way to the wall and worked through the thrashing bodies to the door. Trying to lead the men out was hopeless. It was each one of us in there for himself.

When I staggered out and gulped in fresh air, I didn't know how badly my lungs had been damaged. For weeks, a colorless discharge drained from my chest and I had a hacking cough. When the draining stopped, I felt that Divine Providence had touched me. When it was over there were sixteen bodies stretched out on the ground. Eight men died of lung damage within hours, others were crippled in a few days."

"I remember Mathewson telling me, 'Ty, I got a good dose of the stuff. I feel terrible.' He was wheezing and blowing out congested matter."

Mathewson had not only been in the chamber with Cobb, but earlier had inspected trenches for gas residue. Little did Mathewson know at the time, but he would live only seven more years.

Through the auspices of MAJ Branch Rickey, George Sisler was commissioned a 2nd Lt. and assigned to Camp Humphries, VA. Rickey, Cobb, Mathewson, and Boston Braves President Perry Haughton were sent to France while Sisler trained in Virginia. Just as George Sisler was preparing to be shipped overseas, the armistice was signed on November 11, 1918. Sisler was subsequently discharged from the CWS.

Cobb served approximately 67 days overseas with CWS and was shipped back stateside. Branch Rickey and Christy Matthewson were shipped back stateside prior to 1919. All four were Honorably Discharged and continued their baseball Hall-of-Fame careers. Perry Haughton was also honorably discharged and continued as President of the Boston Braves.

Following illness and hospitalization, Mathewson was shipped home, where in 1919, he became John McGraw's right hand man with the New York Giants, and in 1923, president of the Boston Braves. Developing tuberculosis of both lungs, he was sent to the E. L. Trudeau sanatorium in Saranac Lake, NY, known worldwide for its treatment of the "white plague." Christy Mathewson died at the age of 45 on October 7, 1925, at Saranac Lake, NY. That day was also the opening day of the 1925 World Series between the Pittsburgh Pirates and Washington Senators. During the second game on October 8, the players wore black armbands in honor of Mathewson and 36,000 World Series fans stood as the flag was lowered to half-mast at Pittsburgh's Forbes Field and sang "Nearer My God to Thee."

Ty Cobb normally avoided funerals, but he attended Christy Mathewson's and later stated, "Big Six looked peaceful in that coffin, that damned gas got him, and nearly got me."

As the "War to End All Wars" finally culminated, Warren G. Harding said it was time for the world to "Return to Normalcy."

For many Americans, it was a return to the peaceful confines of the ballpark.

Photo courtesy of: RDECOM Historical Office, Edgewood, MD

Medal Presentation to 1st Gas Regiment, Hanlon Field, France December 4, 1918

References: *Baseball: An Illustrated History*, by Geoffrey C. Ward & Ken Burns, 1994. *My Life in Baseball: The True Record,* by Ty Cobb, 1993 (reprinted). *Cobb: A Biography,* by Al Stump, 1996. *The Sizzler: George Sisler, Baseball's Forgotten Great,* by Rick Huhn, 2004.

Dugway Proving Ground Plays Key Support Role in Testing ARMY's STRYKER

By Shelton A. Raine, Test and Evaluation Management Engineer, PMO Stryker Brigade Combat Team and Mike Cast, Dugway Proving Ground Public Affairs Specialist

The Army's new Stryker wheeled combat vehicle has withstood rocket-propelled-grenade attacks in Iraq, due in large part to the cage-like slat armor fabricated and tested at the Aberdeen Test Center in Maryland. But can Soldiers inside the Stryker withstand chemical or biological attack? To ensure that they can, personnel at the Army's Dugway Proving Ground in Utah have rigorously tested the Stryker's chem-bio defense systems.

Over the past two years, Dugway's West Desert Test Center (WDTC), about 80 miles from Salt Lake City, has extensively tested the Stryker configuration known as the Nuclear, Biological, Chemical Reconnaissance Vehicle (NBCRV). This version of the Stryker combines a suite of advanced nuclear, biological, and chemical (NBC) detection instrumentation that can detect a variety of threats some distance away and pinpoint sources closer to where the vehicles would be operating. The instrumentation is integrated into the Stryker in a way that provides battlefield commanders with an awareness of threats and their locations.

WDTC testers conducted developmental tests, which are technical trials of system performance that usually take place before systems are fielded to Soldiers, and operational tests, which generally involve Soldiers using these systems in a realistic operational scenario. The developmental tests concentrated on helping the Army evaluate the performance of the Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD) and the latest-generation Chemical/Biological Mass Spectrometer (CBMS II), both of which are integrated into the NBCRV Stryker.

The JSLSCAD is a small, fully-automatic, standoff chemical agent detector capable of on-the-move, real-time detection from either aerial or surface platforms. It is designed to detect and alarm to a chemical agent cloud up to 5 kilometers away. The detector also provides chemical identification information and data for activation of countermeasures to avoid contamination. The JSLSCAD is equipped for visual and audible alarm and can display the agent class and relative position. This information is available to transmit to battlefield information networks. JSLSCAD also has the capability to indicate an all-clear condition.

The instrumentation is integrated into the Stryker in a way that provides battlefield commanders with an awareness of threats and their locations.

The CBMS II combines a high-sensitivity ion trap mass spectrometer, integrated electronics, and a data system designed to provide rapid and automated identification of chemical and biological agents. The instrument is designed to detect known and unknown chemical agents in less than 45 seconds and a classified list of biological agents in less than four minutes. Its manufacturer claims that no other device in the world has this capability.

Testers put JSLSCAD through its trials in an outdoor environment with an instrumented grid. They released clouds of environmentally safe, simulated chemical-warfare agents in a carefully controlled test that involved the use of "referee" instrumentation to gauge the effectiveness of the system. By combining JSLSCAD alarm data with the simulant parameters, JSLSCAD performance was evaluated at different standoff distances while the NBCRV was stationary or on the move. The capability of the system to process the data in real time, to meet the requirements of simultaneous testing at multiple sites, is currently under development.

Dugway technical experts tested CMBS II by depositing thickened chemical-warfare- agent simulant in different grid locations representing various terrain types in a closely controlled environment. Testers collected CBMS II alarm data while the Stryker NBCRV vehicle was traveling on the contaminated area at varying speeds, and they correlated the data to the density of the simulant deposits.

Dugway personnel also tested the Joint Biological Point Detection System (JBPDS) integrated into the NBCRV Stryker. JBPDS is designed to provide early warning and identification of biological warfare agents to supported

forces. It is designed to provide biological-agent point detection, identification and sampling capabilities for both fixed-site and mobile operations. The system also is designed to automatically detect and identify up to 10 agents simultaneously in less than 15 minutes. The JBPDS is intended to be man-portable or installed onboard ships, in shelters mounted on some tactical vehicles or on trailers.

Testing took place in the WDTC's Ambient Breeze Tunnel, a facility dedicated to that type of testing. This facility is a partially enclosed structure designed to test point biological detection systems. It allows testers to release biological simulants into a controlled airflow at various levels. Testers put the JBPDS through its trials using a variety of biological simulants at varying levels, airflows and with the vehicle facing various directions.

Dugway personnel also tested the NBCRV Stryker's collective protection system by placing the vehicle in a specialized chamber filled with known levels of vapor simulant. The system was monitored to determine how long it could take a simulant to break through.

To assess the ability of the NBCRV Stryker to function in operationally relevant conditions, personnel from the Operational Test Command conducted a "Limited User Test" (LUT) with support from Dugway staff. This type of testing addresses a limited number of operational issues rather than all of the effectiveness, suitability and survivability issues that must be addressed in an "Initial Operational Test" (IOT). Federal law under Section 2399, Title 10, U.S. Code, requires "Initial Operational Test and Evaluation" (IOT&E) before a major defense acquisition program proceeds beyond Low Rate Initial Production (LRIP). Normally, the LUT may be conducted to provide data for system assessments in support of an LRIP decision or for reviews conducted before the IOT.

Trained military personnel at Dugway operated the vehicles and their integrated detection systems while executing 72-hour reconnaissance missions over Dugway terrain. During these missions, the detection systems were challenged with releases of chemical-warfare-agent and biological simulants to represent threat-relevant clouds as well as ground contamination events.

In addition to gathering system performance data, testers at Dugway collected user input to assess ease of use by Soldiers and other "Manpower and Personnel Integration" issues.

To evaluate vehicle survivability, testers decontaminated the Stryker using standard procedures after the vehicle was contaminated with a known level of chemical warfare agent simulant.

The Stryker NBCRV completed Production Qualification Testing in July 2004, and test centers are still in the reporting process. DTC is also currently in the process of planning the Production Verification Test (PVT) for this vehicle, which would be used to support its materiel release. The PVT is scheduled to commence in October 2005 and continue through July 2007. This test program will help the Army evaluate the Stryker NBCRV's automotive and mission-equipment performance, its capability to operate in various environments, and its reliability and safety. Testing of multiple vehicles will take place at various DTC test centers.

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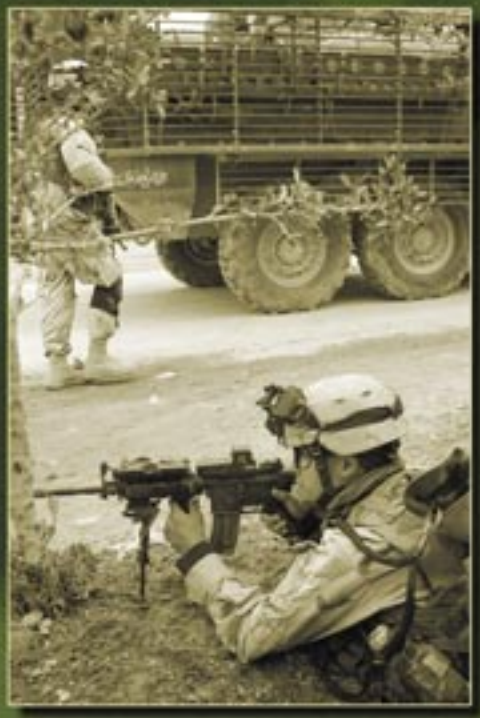
Stryker vehicles from Company A, 5th Battalion, 20th Infantry Regiment, position themselves in the town of Samarra, a town northwest of Baghdad. The company moved in to cover the right flank of Company B, which received contact from several armed attackers in the first major engagement for 3rd Brigade, 2nd Infantry Division.



Stryker Brigade Combat Team conduct route reconnaissance, a presence patrol, a civilian assessment and combat operations contributing to the stability of Samarra, Iraq, Dec. 15.

Photos courtesy of the US Army

‘The Reason for Our Success is Our People.’

AWARDS

Mr. Richard Decker—Commander’s Award for Civilian Service

Mrs. Susan Hubbard—Special Act of Service

MSG Aurelio Burton—Legion of Merit

Picture 1. Awardees from the 2004 Defense Standardization Program Achievement Award, March 8th, 2005 at The Westfields Marriott, in Chantilly, VA. Back row, left to right: LTC Keith Vesely, Medical Identification Treatment Systems; Mr. Ron Davis, AMC; Dr. Mark Wolcott, USAMRIID; Mr. Karim Abdian, AMC; Dr. Dave Norwood, USAMRIID; Mr. K.P. Kilpatrick, Camber Corp.; COL Debra A. Thedford, USACBD Programs; Mr. Richard Decker, ECBC; Mr. Bill Klein, ECBC. Front row, left to right: Mr. John Rossi, Camber Corp.; Mr. Mike Mazza, JPEO-CBD; Ms. Karen Poffenberger, CBMS; Dr. Peter Emanuel, JPEO-CBD; Ms. Cecelia Ball, ECBC; Dr. George Famini, ECBC; Mr. Robert Moeller, ECBC.

Picture 2. Deputy JPEO Douglas Bryce congratulations Craig Wade as he takes a position with the Defense Logistics Agency. Picture 3. Cdr. Charles Cutshall receives his retirement timepiece from BG Reeves. Picture 4. Lt. Cdr. Nicholas Jordan bids farewell as he returns to the United Kingdom. Picture 5. Longevity is key at the JPEO. Workers representing more than 100 years of service receive their citati□
for her tireless work as the Chem-Bio Defense Magazine distribution coordinator. Picture 7. Delanie Richards receives a Special Act Award.□.

Members of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) tour the WWII Memorial and receive a briefing by a local Park Ranger while standing in front the Pacific Pavilion (with pillars). The JPEO-CBD completed its Officer Professional Development training, March 15, 2005.

‘The Reason for Our Success is Our People.’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DEPARTMENT OF THE ARMY
Mr. Richard W. Decker